



Proposal for Hydrogeological Investigation of the Superstition Vistas Area

Presented to Phoenix AMA
Groundwater Users Advisory Council
February 12, 2015



Overview

- Participants
- Purpose/Background
- Objectives/Approach
- Project Impacts/Benefits
- Cost/Schedule



Participants

- Arizona State Land Department (ASLD)
- Arizona Department of Water Resources (ADWR)
- Arizona Water Company (AWC)
- U.S. Bureau of Reclamation (USBR)
- Salt River Project (SRP)



Purpose

- Monitor and assess the water availability of the far southeastern region of the Phoenix Active Management Area (AMA)





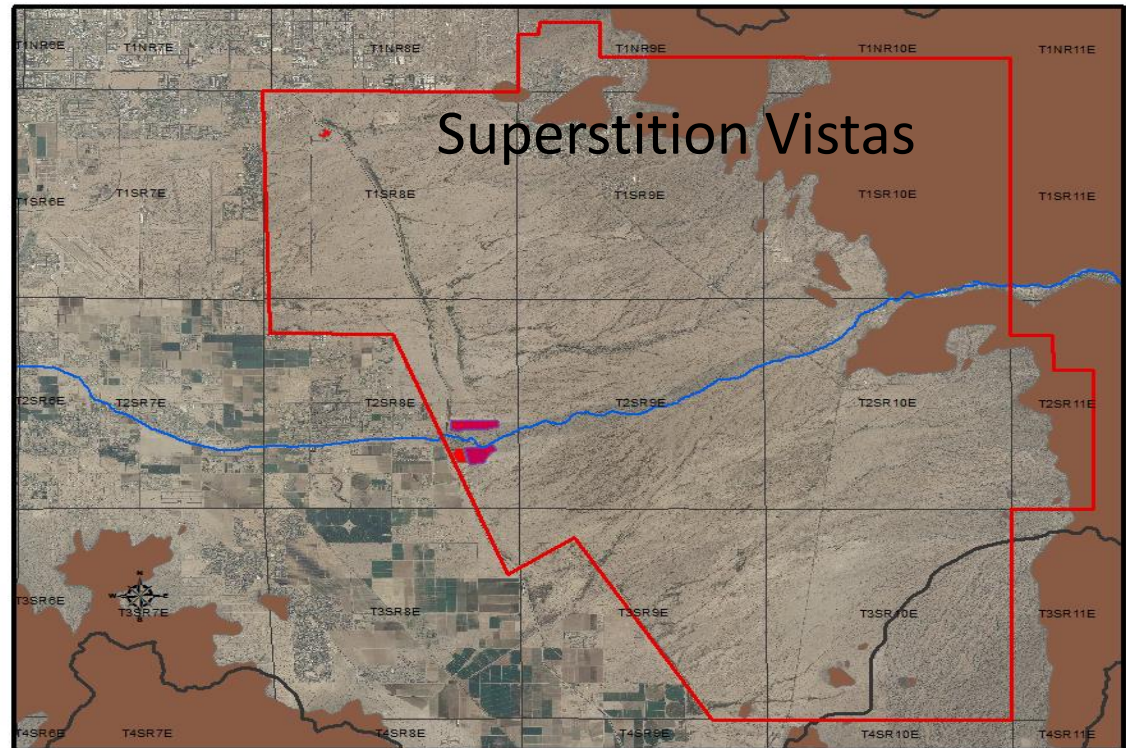
Background

- Superstition Vistas Technical Team since 2013
- Preliminary Assessment (Phase I) completed 2014
- Future work (Phase II) planned 2015-16



Preliminary Assessment

- Estimated Groundwater Storage
- Reviewed and evaluated existing data and reports
- Collected water level and water quality data from select wells





Phase I Findings

- Groundwater storage low:
 - 3.9 million AF (~ 5% of total for the Salt River Valley basin)
 - Approximately one-third less than SRV average
- Discrepancies in interpretation of depth to bedrock along eastern study margin
- Data gaps in groundwater levels and aquifer characteristics
- Basin stratigraphy not well understood
- TDS levels low, generally less than 500 mg/l; arsenic levels exceed drinking water standards in some areas



Phase II Objectives

- Resolve discrepancies in geologic interpretation (i.e. depth to bedrock) to better define the basin structure/extent of aquifer
- Fill in data gaps with respect to water levels and aquifer characteristics to further characterize the groundwater system
- Better delineate thickness of hydrogeological units (UAU, MAU, LAU), consistent with those in ADWR SRV Model

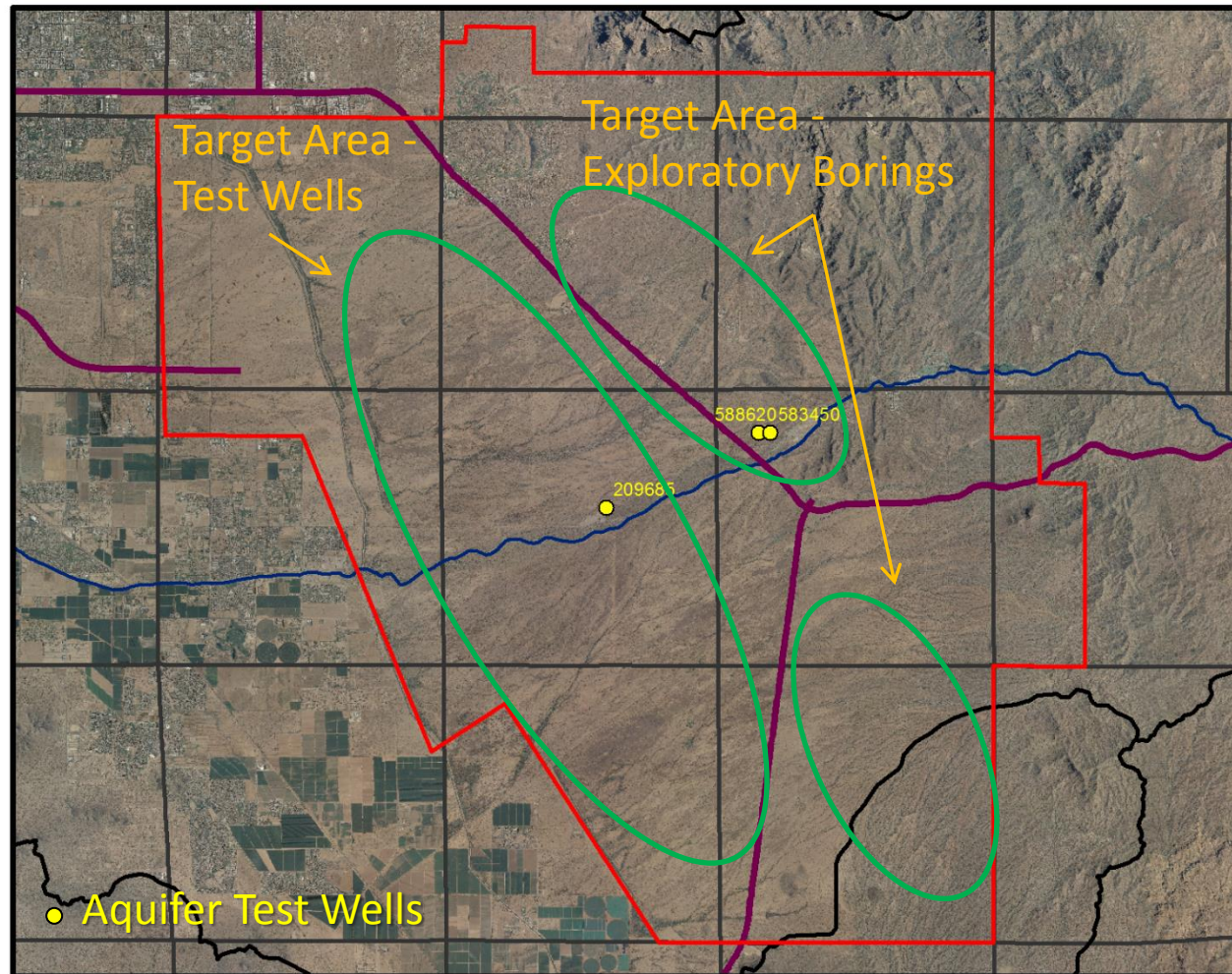


Phase II Approach

- Tasks:
 - 1) Conduct aquifer tests at select AWC, ASLD wells
 - 2) Site locations for up to three 1500-foot exploratory borings; up to three 1200-foot test wells based on vintage seismic data
 - 3) Drill exploratory borings and install test wells
 - 4) Interpret geophysical data obtained from existing or new seismic surveys and geophysical logging of exploratory borings and test wells; delineate depth to bedrock and UAU/MAU/LAU geologic contacts
 - 5) Prepare Report
- SRP has retained Arizona Geological Survey to assist Technical Working Group with Tasks 2-4



Superstition Vistas Study





Impacts/Benefits

- Refinement of the hydrogeological conceptual model, which would support any future groundwater modeling activities
- Guidance for stakeholders in long-term planning efforts to develop a sustainable water supply strategy



Phase II Cost

| Task | Estimated Cost |
|---|---------------------|
| Task 1 – Aquifer Testing | \$ 60,000 |
| Task 2 – Siting of Borings/Test Wells | \$ 7,100 |
| Task 3 – Drilling | \$ 1,605,880 |
| Task 4 – Geophysical Data Interpretation | \$ 139,600 |
| Task 5 - Reporting | \$ 23,700 |
| Subtotal | \$ 1,836,280 |
| Contingencies (collection of new seismic lines) | \$ 122,100 |
| Total | \$ 1,958,380 |



Phase II Budget Summary

| Participant | Year 1 | Year 2 |
|--|------------------|--------------------|
| Arizona State Land Department | TBD | TBD |
| Arizona Department of Water Resources | In-kind | In-kind |
| Arizona Water Company | \$10,000 | \$10,000 |
| U.S. Bureau of Reclamation | In-kind | In-kind |
| Salt River Project | \$350,000 | \$1,000,000 |
| ADWR Water Management Assistance Program Grant | \$175,000 | \$175,000 |
| Total Contributions | \$535,000 | \$1,185,000 |
| Total Project Cost (w/o contingencies) | \$604,500 | \$1,231,780 |



Phase II Schedule

| Task | Estimated Completion Date |
|---|---------------------------|
| Task 1 – Aquifer Testing Deliverable: Tech Memo | March/April 2015 |
| Task 2 – Siting Evaluation Deliverable: Location Map | March/April 2015 |
| Task 3 – Drilling Deliverable: Status Report | March/April 2016 |
| Task 4 – Geophysical Interpretation Deliverable: Status Report | April/May 2016 |
| Task 5 – Reporting Deliverable: Final Report | June/July 2016 |



Questions?